

2011 20

file Oct 1963

OPERATIONAL DATES

454 TEST WG VANDENBERG AFB CALIF

AFBMS LOS ANGELES CALIF

454 TEST WG (SATELLITE) SUNNYVALE CALIF

LOCKHEED MISSILES & SPACE DIVISION SUNNYVALE CALIF

LOCKHEED MISSILES & SPACE DIVISION P.O. BOX 1806
VANDENBERG AFB CALIF (COURIER) ZEN

DOUGLAS AIRCRAFT COMPANY P.O. BOX 1574 VANDEN-
BERG AFB CALIF (COURIER) ZEN

205-2
APR 1966

CLASSIFIED - CHANGED TO

INFO: 1ST MISSILE DIVISION VANDENBERG AFB CALIF (COURIER)
ZEN

1ST MISSILE DIVISION VANDENBERG AFB CALIF (COURIER)
ZEN

454 TEST WG VANDENBERG AFB CALIF (COURIER) ZEN

DOWNLOADED 11-17-12 INTRINSIC;
DECLASSIFIED AFTER 12 YEARS
EOD INSTRUCTIONS 5000.15

SECRET FROM VWZ-12-31-C

LOSS FOR WDET: 454 TEST WG FOR COL MOORE; LKED/
SUNNYVALE FOR DEPT 61-44 (R. W. MARSH); LKED/VAFB

FOR DEPT 61-44 ZEN, DAC FOR MR. HECKMAN ZEN, INFO:

9
DEC 1960

VWZ

OFFICER NAME	NAME (SIGNATURE)	DATE	OFFICER NAME	NAME (SIGNATURE)	DATE
WILLIAM M. PUGH, JR., MAJ, USAF			LEONARD A. PRATT, JR., CAPT		

AFBMD Form 11
1 Nov 59

COORDINATION SHEET

Replaces AFBMD Form 11, 1 Jun 59

By #2 of 8 copies

4445 TENS 407000Z DECEMBER 1960

LINE FOR DISCOVERY PORT KEN, 1MD FOR DOOPS EEN, 4446

THEY TO DOX FIVE (HAI, MICHEL) EEN. SUBJECT: PRE-

LAUNCHER LAUNCH SUMMARY (NIGHT SHIFT-PRSTO). THE

FOLLOWING IS THE 12 HOUR SUMMARY REPORT ON THE

LAUNCHING OF DISCOVERY KVEN (HAI 194/AGNDA 1102).

THIS WAS THE FIRST DISCOVERY VEHICLE TO UTILIZE THE

TRON DA-21 BOOSTER WITH 144,000 LB THRUST AND AN

AGNDA-2 WITH AN SP-4 ENGINE (44-1 EXPANSION NOZZLE),

A FUEL-BURN HYDRAULIC SYSTEM, AND DECREASED

ELECTRICAL POWER SUPPLY.

1. PRE-LAUNCH OPERATIONS

A. PRE-LAUNCH COUNTDOWN OPERATIONS WERE

STARTED AT 2000 PST ON 7 DECEMBER 1960. THE FIRST

COUNTDOWN HOLD WAS CALLED AT 7-15 MIN TO ALLOW A

TRAIN TO CLEAR THE RANGE HAZARD AREA. THE DURATION

OF THIS HOLD WAS 25 MINUTES.

B. TERMINAL COUNTDOWN WAS INITIATED AT 1106 PST.

DURING PHASE 3 OF THE TERMINAL COUNT, A DISCREPANCY

IN THE TRON PROPellant LOAD COMPUTER REGENERATED

THE SECOND HOLD WHICH LASTED FOR APPROXIMATELY 19.2

MINUTES. THE PROBLEM WAS SATISFACTORILY OVERCOME

AND THE TERMINAL COUNT WAS COMPLETED WITHOUT

YVE

2 4

GW

THE TWO VEHICLES ARE CALLED

VEHICLE 1

VEHICLE 2

A. VEHICLE 1 COMMENCED AT 12:00.5 PM.

B. THIS MANEUVER BEGAN AT 1:40.1 SEC AND WAS FOLLOWED BY 1.5 SEC OF VEHICLE 1 ENGINE SOLO OPERATION.

C. AT THIS POINT, THE VEHICLE WAS SLIGHTLY LOWER AND TO THE LEFT OF THE PROJECTED TRAJECTORY WITH A VELOCITY SLIGHTLY GREATER THAN PROJECTED. THE FORWARD VELOCITY, AND FLIGHT PATH ANGLE WERE ALL WELL WITHIN THE SPECIFIED LIMITS. MANEUVER CHARACTERISTICS DATA INDICATES PROPER ENGINE OPERATION.

D. VIBRATIONS WERE NOTED ON AGEMA INSTRUMENTATION FROM 1:40.1 SEC TO 1:40.6 SEC. THE MAGNITUDE AND FREQUENCY OF THE VIBRATIONS WERE APPROXIMATELY 1.7 G'S AT 22 CPS LONGITUDINAL, 0.2 G'S AT 22 CPS LATERAL, AND 2.4 G'S AT 46 CPS NORMAL.

3. COAST PHASE

A. SEPARATION OF THE ORBITAL STAGE FROM THE BOOSTER BEGAN AT 1:40.6 SEC WHEN THE FID FUELERS WERE FIRED AND THE SEPARATION WAS SATISFACTORILY COMPLETED ABOUT 1.5 SEC LATER.

1445 THE WETLANDS ARE CALM

B. COMMAND 1 OF 11.2 SEC DURATION WAS TRANSMITTED TO ADJUST THE TIME TO DETACH ORBITAL BOOST AND COMMAND 6 OF 14.9 SEC DURATION WAS TRANSMITTED TO SET THE VELOCITY TO BE GAINED DURING ORBITAL BOOST BASED ON THE BOOST TRAJECTORY AS DETERMINED BY THE POINT MOUNT VERTICAL RADAR. THESE COMMANDS WERE SATISFACTORILY RECEIVED AND RESPONDED TO BY THE VEHICLE.

C. ORBITAL STAGE BOOST

A. AGMA BOOST OPERATION STARTED AT T+254.1 SEC AND TERMINATED AT T+269.1 SEC FOR AN OPERATING DURATION OF 15.0 SEC. BOOST OPERATION WAS NORMAL AND THE BOOST WAS CONTROLLED BY THE INTEGRATOR. THE VELOCITY GAIN DURING ORBITAL BOOST AS DETERMINED FROM INTEGRATOR DATA WAS 14.10 FPS. THE NET CALCULATED FROM INTEGRATOR DATA WAS 14.10 FPS (ENGINE SPEED DATA WAS NOT AVAILABLE.)

B. THE AGMA ATTITUDE WAS CONTROLLED SATISFACTORILY DURING THE ORBITAL STAGE BOOST PHASE.

C. ORBIT DEVIATION OCCURRED AT AN ALTITUDE OF 187 STATUTE MILES AT WHICH TIME THE VEHICLE HAD AN INERTIAL VELOCITY OF 25,900 FPS AND A FLIGHT PATH ELEVATION 4.5°.

1. THE VANDERBERG AFB CALL
AND THE VANDERBERG AFB CALL
THESE
PRODUCED A NEAR-NOMINAL ORBIT.

THE VANDERBERG TRACKING STATION RECEIVED THE
TELEMETRY SIGNAL FROM LIFT-OFF TO T+310 SEC.
THE SIGNAL WAS USED TO THE RECORDATION EQUIPMENT
GIVING THE LOG OF REAL-TIME DECOMPUTATED DATA.
THE TELEMETRY DATA WERE ALL SATISFACTORY.
THE PRE-FLIGHT AND POST-FLIGHT PLAYBACKS HAVE
PRODUCED GOOD QUALITY RECORDS. THE ACQUISITION
BEACON SIGNAL WAS RECEIVED UNTIL T+510 SEC. THE VAFB
VIRLOFT RADAR TRACKED THE AGEMA BEACON FROM LIFT-
OFF TO T+114 SEC AT WHICH TIME THE RADAR SWITCHED TO
THE PASSIVE TRACKING MODE AS PLANNED.

2. THE AUXILIARY TRACKING STATION AT POINT MUDY
RECEIVED THE TELEMETRY SIGNAL FROM T+25 SEC TO
T+310 SEC AND THE ACQUISITION BEACON SIGNAL FROM T+31
SEC TO T+510 SEC. THE PT MUDY VIRLOFT RADAR ACQUIRED
THE BEACON SIGNAL AT T+25 SEC, LOCKED ON AT T+44 SEC,
AND TRACKED UNTIL SIGNAL FADE AT T+530 SEC. THE
RADAR TRACKING DATA ARE OF GOOD QUALITY.

3. RADAR DAMAGE

THE

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

EXCEPT WHERE SHOWN OTHERWISE. DATE 10/1/88 BY 1043

TO A GREATER EXTENT THAN DURING THE PREVIOUS AGEMA
LAUNCH, BUT THE VAS RECOVERY TEAM IS NOT EXPECTED
TO RECOVER THIS TIME.

320) NAT 3 1

320) RPA 3